Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ON THE HABITS AND STRUCTURE OF THE COCCID GENUS MARGARODES.

T. D. A. COCKERELL.

THERE has recently been made a new pathway across the campus of the New Mexico Agricultural College at Mesilla Park, and the earth on it is still soft and loose. Walking this morning (January 16) up this path, I saw, just opposite the door of the new Science Hall, a couple of small winged insects, hurrying to and fro as if they had lost something, almost beneath my feet. Curious to know what was stirring at this time of year, I knelt down, and was surprised to find that they were male coccids. Presently, greatly to my astonishment, one of them began to dig into the earth, and in a moment completely buried itself, leaving only the tips of its long abdominal filaments visible. I dug it out and discovered the object of its search, which was a plump yellow female coccid.

These coccids, ♂ and ♀, prove to belong to the singular genus Margarodes, never before found in New Mexico. This genus was established by the Rev. L. Guilding, in 1829, for a species of the West Indies; others have lately been described by Giard from Chili and the Cape of Good Hope. One form, *Margarodes formicarum* Guilding, var. *rileyi*, Giard, has been found on some of the Florida Keys. An allied genus, Porphyrophora, with several species, occurs in Europe; it was named by Brandt in 1835.

These two genera (if they are to be separated) form the subfamily Porphyrophorinæ or Margarodinæ, closely allied to the Monophlebinæ, and especially to the Xylococcinæ of Pergande. Both Margarodinæ and Xylococcinæ are very well separated from Monophlebinæ by the absence of legs and antennæ in the intermediate stages of the female, and the total absence of mouth parts in the adult female. From one another they do not differ so much, and I am inclined to treat them only as tribes of one subfamily, thus:

Tribe, Margarodini. Subterranean; anterior legs of both sexes (adults) adapted for digging. Tribe, Xylococcini. Arboreal; anterior legs normal.

The striking character of the adult Margarodes, especially (because least expected) in the ♂, is that of the anterior legs. The ♂ of Porphyrophora has long been known to have short anterior legs; that of Margarodes was quite unknown until lately described by M. Lataste in the *Actes Soc. Scien. Chili*, Vol. VII (1897), pp. 99–102. Lataste's account, relating to *M. vitium* Giard, is quite full, and he gives a figure of one of the curious anterior legs with its thickened femur. Nobody, however, seems to have seen the insects digging until now, nor to have known the purpose of the peculiarity.

The following description will serve for the identification of the New Mexico Margarodes:

Margarodes hiemalis, sp. nov.

Adult ♀. Bright lemon yellow, very soft, oval; 5½ mm. long, 4 broad, 2½ high; segmentation distinct, each segment with a whorl of mostly blackish but inconspicuous hairs; apex of abdomen with a small reddish hairy prominence; abdomen on ventral surface longitudinally sulcate on each side, but the median area bulging, not depressed; a deep median depression between the levels of the first two pairs of legs; thoracic spiracles present as usual, but no abdominal spiracles noticed; mouth parts entirely absent; antennæ short, moniliform, light reddish brown, except segments 1 to 3, which are pallid, 8-segmented; segments 1 and 2 very short, ring-like, fully three times as broad as long, 2 smaller and not so broad as 1; 3 transversely oval, large; 4 very short and broad; the next 3 almost cordiform; the last (8th) spherical; sutures between segments 3 to 8 very deep; 8 with some long hairs at end; skin minutely papillose; a dull pinkish patch between the antennæ; legs present; first pair adapted for digging; femur excessively broad and short, forming a low rounded cone, on which is a shining red-brown rounded structure, divided by a suture in the middle; the basal part of this, which is the tibia, is broader than long; the apical part (tarsus) is continued at its apex into a stout long piceous process, which forms a digging claw. The other legs are similar in structure, but considerably smaller; the claws are all incrusted by a black substance, which on one of the middle legs forms quite a big lump.

Adult ♂. Length of body about 2 mm., of abdominal brush about

5 mm., of wing about 3½ mm. Body purplish brown, eyes and anterior part of prothorax crimson; mesothorax shining dark brown; abdomen with a median longitudinal series of transversely lengthened dark brown or blackish marks; wings ample, clear, iridescent, with a large pinkish pseudostigma. Eyes very strongly faceted. Abdominal brushes two, arising from the 7th and 8th dorsal segments, each consisting of many white threads, as in Orthezia. Antennæ brown, 10-segmented, the segments sausage-shaped, except the first two, which are short and broad; each segment with spreading hairs, which, however, are not as long as the segment. The wings have no veins except the costal, but there are three folds; two parallel and close together, obliquely crossing the middle of the wing to the lower margin; and one in the place of the anal vein. Anterior legs fossorial, the femora greatly swollen, like the hind femora of Haltica; tibia and tarsus (the latter short) transformed into a digging claw; middle and hind legs ordinary, except that the hind femora are rather swollen, and the tarsi are all extremely short, hardly one-fourth the length of the long tibiæ. Claws sharp and long; no digitules.

Hab. — Mesilla Park, New Mexico, Jan. 16, 1899. The immature forms remain to be discovered; they will certainly be found on the roots of some shrub; most probably on those of *Atriplex canescens*, which abounds on the college campus; possibly on those of *Prosopis glandulosa.*

MESILLA PARK, NEW MEXICO,
January, 1899.